

# Work Productivity In Female Employees

Fatwa Tentama, Tri Wahyuni Sukesi, Sulistyawati, Surahma Asti Mulasari

**Abstract:** There are many factors that affect work productivity. This study aims to determine the effect of workload and work stress on work productivity. The population in this study was female employees at X University and the research sample was 50 employees. The sampling technique used was purposive sampling. The research method used was a quantitative method using research instruments, namely work productivity scale, workload scale, and work stress scale. Analysis was conducted using multiple linear regression analysis technique. The findings show that workload and work stress significantly affect work productivity ( $F = 17.561$ ,  $p = .000$ ). High and low workloads and work stress can predict employee work productivity.

**Keywords:** Female Employees, Workload, Work Productivity, Work Stress

## 1 INTRODUCTION

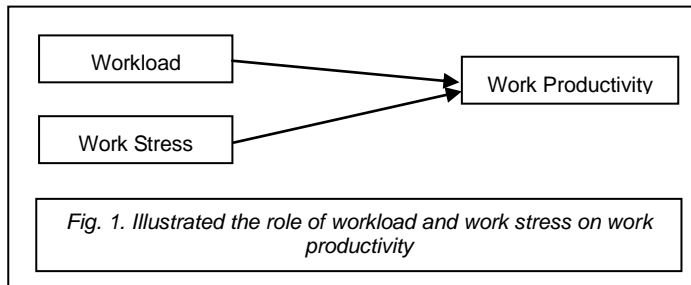
Human Resources (HR) is the main asset that significantly influences the progress of the company because HR could provide energy, functioning as the engine for organizational sustainability [1]. Mathis and Jackson [2] define human resources as the design of formal systems in an organization to achieve organizational goals effectively. Organizations must pay critical attention to HR because the continuity and growth of the organization are highly dependent on the productivity of its workforce, as productive employees can improve the welfare of the organization [3]. Productivity is one of the most important and essential variables in governing economic production activities [4]. Increased work productivity can increase the capacity to provide the most efficient and economical products and services [5]. The impact of high work productivity is that it can improve the organization's income standards [6]. According to Allmon, Haas, Borcharding, and Goodrum [7] high work productivity can contribute to the general welfare of employees. Meanwhile, low work productivity results in low income and organizational poverty [1]. Higher labor productivity will support increased production with the same costs and labor [5]. Work productivity is one of the overall work function components, so a decrease in work productivity can threaten the capacity of work function [5]. Akinyele [6] found that low work productivity can create a less conducive work environment. Low labor productivity will reduce higher output with an increase in labor costs that are not comparable [5].

Work productivity is the amount of output per work unit, where labor can be expressed in the number of work hour and the number of individuals employed [5]. According to other experts, work productivity is the ability to produce, flourish, and be generative [8]. Work productivity is a measure of the amount of output produced by the input unit [9]. In other

words, work productivity is a measure of the level of individual function in work that refers to the quantity or quality of work produced [10]. It is a technical relationship between input, output, quality, and quantity [11]. Lots of factors that affect employee productivity, especially female employees, include workload and work stress. A high workload can cause fatigue and decreased energy to resolve demands, causing a decline in employee productivity [12]. The high and low workload can affect work productivity [13]. Excessive workload will cause the task not to be completed within the deadline, reducing employee work productivity [14]. Having a large amount of workload can also cause harm to employees and the organization because by reducing work productivity [15]. A workload is a set of circumstances that mediate individual performance from perceptual, cognitive, and motoric tasks. [16]. It is the number of resources needed for a series of tasks along with the use of resources needed to complete the task [17]. Meanwhile, other experts define workload as the cost or amount incurred by an individual to achieve a certain level of performance that arises from the interaction between task requirements, the circumstances in which the task is performed, and skills, as well as individual perceptions [18]. According to some experts, the workload is the level of attention resources needed to meet performance criteria that are influenced by the demands of tasks and experience [19]. Another factor affecting work productivity is stress from work. One reason why work stress needs to be understood is that employees with negative work stress cannot work optimally so that it will harm work productivity [20]. Excessive work stress can adversely affect the physical health and work results of individuals [21], [22]. Work stress can reduce work productivity because work stress can create conditions that interfere with the individual's ability to effectively complete his/her tasks [23]. The study found that work stress affects work productivity and the negative impact resulting from work stress is a decrease in work productivity [24]. Employees who experience work stress may also experience changes in their work productivity [25]. Work stress is an individual's physiological and emotional response to the perceived imbalance between work demands and abilities, resources, or needs [26], [27]. Work stress is a change in an individual's physical or mental condition in response to work demands that pose challenges or threats to employees [28]. Meanwhile, some experts explain work stress is the result of an imbalance between the demands of professional practice and the coping abilities of workers, associated with professional tension, which negatively affects the mental health of workers [29]. Work stress is the process by which

- Fatwa Tentama, Faculty of Psychology Ahmad Dahlan University, Yogyakarta, PH-081904100008. E-mail: fatwa.tentama@psy.uad.ac.id
  - Tri Wahyuni Sukesi, Faculty of Public Health Ahmad Dahlan University, Yogyakarta, PH-08164268784. E-mail: yunisukesi.fkmud@gmail.com
  - Sulistyawati, Faculty of Public Health Ahmad Dahlan University, Yogyakarta, PH-08170402693. E-mail: sulistyawatisuyanto@gmail.com
  - Surahma Asti Mulasari, Faculty of Public Health Ahmad Dahlan University, Yogyakarta, PH-08164222647. E-mail: rahmasti@gmail.com
- The results of observations and interviews with several female employees at X University show that, in completing a variety of jobs, many female employees experienced more problems, causing work productivity to be less than optimal. Female employees can only complete a limited number of assignments, can only complete minimal work, often even completing work beyond the deadline. Such performance will impact the work productivity of the organization.

experiences and psychological demands (stressors) of the workplace produce short-term (tension) and long-term changes in mental and physical health [30]. Based on the explanation above the effect of workload on work productivity and work stress on work productivity can be described in the figure.1, below:



This study aims to empirically examine the effect of workload and work stress on work productivity of female employees at X University.

## 2 RESEARCH METHOD

### 2.1 Research Participant

The population in this study were female employees at X University. Participants in this study included 50 female employees at X University. We used purposive sampling technique to recruit the participants whom fits the inclusion criteria: female, married, have children, work as a permanent employee for at least one year.

### 2.2 Data Collection Method

Data collection was conducted using three research instruments. The work productivity scale refers to the factors used in the measurement of work productivity according to Simamora [31], namely work quantity, work quality and timeliness. The workload scale refers to the workload intrinsic factors according to Munandar [32], including by Schultz and Schultz [33], Beehr and Newman [34], and Robbins [35] namely physiological, psychological, and behavioral aspects.

### 2.3 Instruments Validity and Reliability

A trial was done of each scale using 30 female employees. Based on that trial, we found that the work productivity scale achieved a reliability coefficient score of .909. The discrimination index (corrected item-total correlation) moved between .270 to .793. A total number of 18 items were deemed valid and reliable to be used for the study. The workload scale was found to have reliability coefficient score of .891. Item discrimination index (corrected item-total correlation) moved between .398 to .802. We found 12 items to be valid and reliable to be used in the study. Lastly, the work stress scale achieved a reliability coefficient score of .919. Item discrimination index (corrected item-total correlation) moved between .522 to .801. A total number of 12 items were deemed valid and reliable items to be used for the study.

### 2.4 Data Analysis

Data was analyzed using multiple regression analysis to empirically examine the effect of workload and work stress on

work productivity. The assumption test conducted before the hypothesis testing consisted of normality test, linearity test and multicollinearity test. Data analysis was conducted using the IBM SPSS 19.0 program.

## 3 RESULTS

### 3.1 Assumption Tests

#### 3.1.1 Normality Test

Table 1 depict the results of the normality test analysis. More specifically, it reports that the significant value of work productivity, workload, and work stress are .065 ( $p > .05$ ), .134 ( $p > .05$ ), and .088 ( $p > .05$ ) respectively, indicating that each data are normally distributed. In other words, there is no difference between the score distribution of the sample and population. It shows that the sample can represent the population.

**TABLE 1**  
NORMALITY TEST

Variable	K-SZ Score	Sig.	Annotation
Work Productivity	1.309	.065	Normal
Workload	1.163	.134	Normal
Work Stress	1.251	.088	Normal

Source: Research Result, 2019 (processed data)

#### 3.1.2 Linearity Test

The linearity test results of workload on work productivity obtained an F linearity of 34,324 with a significance level ( $p$ ) of .000, which indicates the presence of a line that connects workload and work productivity. The linearity test results of work stress on work productivity obtained an F linearity of 4,909 with a significance level ( $p$ ) of .034, indicating that there is a straight-line that connects work stress with work productivity.

**TABLE 2**  
LINEARITY TEST

Variable	F Linearity	Sig.	Threshold	Annotation
Workload	34.324	.000	$P < .05$	Linear
Work Stress	4.909	.034	$P < .05$	Linear

Source: Research Result, 2019 (processed data)

#### 3.1.3 Multicollinearity Test

Table 3 shows that workload and work stress have an VIF value = 1.454 ( $VIF < 10$ ) and tolerance .688 (tolerance  $> .1$ ), implying that there is no multicollinearity between workload and work stress.

**TABLE 3**  
MULTICOLLINEARITY TEST

Variable	Tolerance	VIF	Annotation
Workload	.688	1.454	No multicollinearity
Work Stress	.688	1.454	No multicollinearity

Source: Research Result, 2019 (processed data)

### 3.1 Hypothesis Test

The multiple regression analysis (Table 4), found that workload and work stress have a significant effect on work productivity of female employees at X University ( $F = 17,561$ ,  $P < .01$ ). The contribution of workload and work stress to work productivity are indicated by the value of the Adjusted R Square = .403. This result shows that workload and work stress contributes up to 40.3% in explaining work productivity, whilst the remaining 59.7% are influenced by other factors outside the variables of this study.

**TABLE 4**  
ANALYSIS RESULT OF THE HYPOTHESIS TESTING

Variable	F	Adjusted R Square	Sig	Threshold	Annotation
Workload and Work Stress on Work Productivity	17.561	.403	.000	$p < .01$	Significant Effect

Source: Research Result, 2019 (processed data)

Partially, the magnitude of the effect of workload on work productivity of  $(t) = 5.162$  with a significance level of .000 ( $p < .01$ ), indicating that there is a strong significant effect of workload on work productivity on female employees at X University. The results of the analysis of work stress regression on work productivity obtained value  $(t)$  of  $= -0.469$  with a significance level of .469 ( $p > .05$ ) which meant that work stress does not have any effect on the work productivity of female employees at X University.

## 4 DISCUSSION

The regression analysis result found that workload and work stress significantly impact the work productivity of female employees. Based on this finding, the first hypothesis of this study has been accepted, namely that work productivity could be predicted by workload and work stress. The two independent variables contributed a significant amount of 40.3% to work productivity, while the remaining 59.7% are influenced by other variables. These other variables could include personality, work ethics, work role perception, environment, labor market, influence of regulations, and workplace conditions [36]. Our findings highlight that when female workers feel high physical and job demands when they must complete a variety of work and large number of assignments on a daily basis. When employees face high physical and job demands, it most certainly accompanied by

changes in the physical or mental condition of the individual in response to these work demands. This will ultimately pose a threat to employees. Such situation may affect the amount of work that can be completed and the quality of work and have an impact on the timeliness of task completion. In the second hypothesis testing, it was found that there was a very significant effect of workload on work productivity of female employees so that the hypothesis was accepted. Workload in the form of physical demands and job demands can affect the physiological and psychological conditions of female employees such as fatigue, inability to concentrate, irritability, eating disorders, and even sleep disorders. This will ultimately cause an impact on decreasing performance or declining productivity such as decreased work quantity, poor quality of work and delayed completion of work. This was in line with previous research which found that employee workload affected work productivity [37]. Recent research also found that excessive workload can affect individual performance, so that it has an impact on declining work productivity [38]. According to Khan and Hedges [39] the increase in excessive workload will affect employee work productivity. The third hypothesis was rejected, meaning that there was no effect of work stress on work productivity on female employees. This result contradicted previous theories and research which found that employee work stress influenced work productivity [23]. Employees with work stress that exceeds tolerance limits are directly related to psychological disorders and physical disabilities, these conditions will cause a decrease in loyalty, motivation in work and overall work productivity will also decline [24]. Nevertheless, the results of this study were supported by the study conducted by Campbell, Lin, Devries and Lambert [40] who found that not all work stress adversely affects individual performance, as certain levels of work stress are needed to keep individuals alert and give individuals energy to stay focused and adaptable quickly to the work environment. Thus, female employees who are able to manage stress well will actually experience an increase in their work productivity.

## 5 CONCLUSION

Based on the findings, our study concludes: 1) Simultaneously, workload and work stress have a very significant effect towards work productivity of female employees at X University. 2) Workload has a very significant effect towards the work productivity of female employees at X University. 3) Work stress has no effect towards the work productivity of female employees at X University.

## ACKNOWLEDGMENT

The author would like to thank the Research And Community Service Institute and the Women's Study Center Ahmad Dahlan University for providing research funding so that this research can be carried out and completed smoothly.



## REFERENCES

- [1] T.M. Yesufu, *The Human Factor in National Development: Nigeria*. Ibadan: Spectrum Books Limited. 2001.
- [2] R.L. Mathis and H.J. Jockson, *Human Resource Management*. South Western: College Publishing. 2010.
- [3] S.T. Akinyele, "A Critical Assessment of Environmental Impact on Workers Productivity in Nigeria," *Research Journal on Business Management*, vol. 4, no. 1, pp. 61-72, 2010.
- [4] S. Tangen, "Demystifying Productivity and Performance," *International Journal of Productivity and Performance Management*, vol. 54, no. 1, pp. 34-46, 2005.
- [5] A. Deaconu, E. Gogu, C. Radu, and & M. Tudor, "Sustainable Economic Development, Economic Equilibrium and Work Productivity on Industries of the Romanian National Economy 2000-2015," *Economic Computation & Economic Cybernetics Studies & Research*, vol. 52, no. 1, pp. 25-42, 2018.
- [6] S.T. Akinyele, "The Influence of Work Environment on Workers Productivity: A Case of Selected Oil and Gas Industry in Lagos, Nigeria," *African Journal of Business Management*, vol. 4, no. 3, pp. 299-307, 2009.
- [7] E. Allmon, C.T. Haas, J.D. Borcharding, and P.M. Goodrum, "U.S. Construction Labor Productivity Trends, 1970-1998," *Journal of Construction Engineering and Management*, vol. 126, no. 2, pp. 97-104, 2000.
- [8] A. Mougheli, and A. Azizi, *Human Resources Productivity Management*. Tehran: Payam Nour University. 2011.
- [9] R. Boyle, *Measuring Public Sector Productivity: Lessons from International Experience*. Dublin: Institute of Public Administration. 2006.
- [10] C.J. Evans, "Health and Work Productivity Assessment: State of The Art or State of Flux?," *Journal of Occupational and Environmental Medicine*, vol. 46, no. 6, pp. 3-11, 2004.
- [11] M. Alvesson, and S. Sveningsson, *Changing Organizational Culture: Cultural Change Work in Progress*. New York: Routledge. 2015.
- [12] B.K. Smith, "Test Your Stamina for Workplace Fatigue," *Nursing Management*, vol. 35, no. 10, pp. 38-40, 2004.
- [13] B.R. Norrish, and T.G. Rundall, "Hospital Restructuring and The Work of Registered Nurses," *Milbank Quarterly*, vol. 79, no. 1, pp. 55-79, 2001.
- [14] K. Sjogren, G. Fochsen, M. Josephson, and M. Lagerström, "Reasons for Leaving Nursing Care and Improvements Needed for Considering A Return: A Study Among Swedish Nursing Personnel," *International Journal of Nursing Studies*, vol. 42, no. 7, pp. 751-758, 2005.
- [15] M. Flinkman, M. Laine, H.L. Kilpi, H.M. Hasselhorn, and S. Salanterä, "Explaining Young Registered Finnish Nurses' Intention to Leave The Profession: A Questionnaire Survey," *International Journal of Nursing Studies*, vol. 45, no. 5, pp. 727-739, 2008.
- [16] R. Parasuraman, and D. Caggiano, *Mental Workload*. San Diego: Academic Press. 2002.
- [17] M. Hoedemaeker, *Summary Description of Workload Indicators: WP1 Workload Measures*. Leeds, UK: University of Leeds. 2002.
- [18] S.G. Hart, *NASA-Task Load Index (NASA-TLX); 20 Years Later*. Los Angeles, CA: Sage Publications. 2006.
- [19] M.S. Young, and N.A. Stanton, "What's Skill Got to Do With It? Vehicle Automation and Driver Mental Workload," *Ergonomics*, vol. 50, no. 8, pp. 1324-1339, 2007.
- [20] J.M. Laposa, L.E. Alden, and L.M. Fullerton, "Work Stress and Posttraumatic Stress Disorder in ED Nurses/Personnel," *Journal of Emergency Nursing*, vol. 29, no. 1, pp. 23-28, 2003.
- [21] A.S. Antoniou, F. Polychroni, and A.N. Vlachakis, "Gender and Age Differences in Occupational Stress and Professional Burnout Between Primary and High-School Teachers in Greece," *Journal of Managerial Psychology*, vol. 21, no. 7, pp. 682-690, 2006.
- [22] S. Bellingrath, T. Weigl, and B.M. Kudielka, "Chronic Work Stress and Exhaustion Is Associated with Higher Allostatic Load in Female School Teachers: Original Research Report," *Stress*, vol. 12, no. 1, pp. 37-48, 2009.
- [23] C.A. Veloutsou, and G.G. Panigyrakis, "Consumer Brand Managers' Job Stress, Job Satisfaction, Perceived Performance and Intention to Leave," *Journal of Marketing Management*, vol. 20, no. 1-2, pp. 105-131, 2004.
- [24] D.M. Gates, G.L. Gillespie, and P. Succop, "Violence Against Nurses and Its Impact on Stress and Productivity," *Nursing Economic*, vol. 29, no. 2, pp. 59-66, 2011.
- [25] A. Nygaard, and R. Dahlstrom, "Role Stress and Effectiveness in Horizontal Alliances," *Journal of Marketing*, vol. 66, no. 2, pp. 61-82, 2002.
- [26] J.J. Hakanen, A.B. Bakker, and W.B. Schaufeli, "Burnout and Work Engagement Among Teachers," *Journal of School Psychology*, vol. 43, no. 6, pp. 495-513, 2006.
- [27] C. Montgomery, and A.A. Rupp, "A Meta-Analysis for Exploring The Diverse Causes and Effects of Stress in Teachers," *Canadian Journal of Education*, vol. 28, no. 3, pp. 458-486, 2005.
- [28] T.W. Colligan, and E.M. Higgins, "Workplace Stress: Etiology and Consequences," *Journal of Workplace Behavioral Health*, vol. 21, no. 2, pp. 89-97, 2006.
- [29] A. Kirchhof, T. Magnago, S. Camponogara, R. Griep, J. Tavares, F. Prestes, and L. Paes, "Working Conditions and Social-Demographic Characteristics Related to the Presence of Minor Psychic Disorders in Nursing Workers," *Texto & Contexto-Enfermagem*, vol. 18, no. 2, pp. 215-223, 2009.
- [30] D. Ganster, and C. Rosen, "Work Stress and Employee Health: A Multidisciplinary Review," *Journal of Management*, vol. 39, no. 5, pp. 1085-1122, 2013.
- [31] H. Simamora, *Human Resource Management (in Indonesia)*. Jakarta: Bina Rupa Aksara. 2004.
- [32] A.S. Munandar, *Industrial Psychology and Organization (in Indonesia)*. Jakarta: UI Press. 2001.
- [33] D.P. Schultz, and S.E. Schultz, *Psychology and Work Today: An Introduction to Industrial and Organizational Psychology*. New York: Macmillan Publishing Company. 2009.
- [34] T.A. Beehr, and J.E. Newman, "Job Stress, Employee Health and Organizational Effectiveness: A Facet

- Analysis, Model and Literature Review," *Personnel Psychology*, vol. 31, no. 4, pp. 665-669, 1978.
- [35] S.P. Robbins, *Organisational Behaviour*. San Diego: Prentice Hall. 2008.
- [36] J.L. Sandqvist, and C.M. Henriksson, "Work functioning: A conceptual framework," *Work*, vol. 23, no. 2, pp. 147-157, 2004.
- [37] J. Rogstadius, V. Kostakos, A. Kittur, B. Smus, J. Laredo, and M. Vukovic, "An Assessment of Intrinsic and Extrinsic Motivation on Task Performance in Crowdsourcing Markets," *Proceedings of the Fifth International AAAI Conference on Weblogs and Social Media*, pp. 321-328, 2011.
- [38] J. Pilourdault, S.A. Yahia, D. Lee, and S. Roy, "Motivation-Aware Task Assignment in Crowdsourcing," *Proc. 20th International Conference on Extending Database Technology (EDBT)*, pp. 246-257, Mar 2017.
- [39] S.H. Khan, and W.P. Hedges, "What is The Relation Between Number of Sessions Worked and Productivity of Radiologists – A Pilot Study?," *Journal of Digital Imaging*, vol. 29. No. 2, pp. 165-174, 2016.
- [40] T. Campbell, S. Lin, C. DeVries, and K. Lambert, "Coping Strategies in Male and Female Rats Exposed to Multiple Stressors," *Physiology & Behavior*, vol. 78, no. 3, pp. 495-504, 2003.